Patient Characteristics		
Age (mean)	83.1 years +/− 10.1	
Caucasians / African-Americans	84% / 16%	
Gender % (males / females)	69 / 31	
LVEF (mean)	15 % +/− 8%	
Co-morbidities		
Prior MI	62%	
Prior PCI	38%	
Diabetes	67%	
PVD	64%	
CKD (IV/V)	46%	
Prior CABG	28%	
Co-morbidity based mortality Risk Scoring		
STS – Mean Risk of Procedural Mortality	65% +/− 18.8 %	
STS – mean Mortality or morbidity	87.1% +/− 23.7%	
Mean EuroSCORE II predicted mortality	52.42% +/− 11.8%	
Mean EUROSCORE predicted mortality(logistic)	66.5% +/− 21%	
Mean Parsonnet predicted 30 day mortality	38.9% +/− 13.3%	
Aortic Valve Characteristics		
	AVA	Mean Grad
Pre	0.55	45
Post	0.68	32

Results: All patients had uneventful BAVs with this form of Impella support.The in-hospital mortality was 15% with mean hospital length of stay 6 days +/− 3.
Conclusions: BAV supported by Impella LVAD in a group of high risk patients with advanced age and poor cardiac reserve is feasible and efficacious.This particular algorhythm permits intervention with only a single arterial access.

TCT-880

CT-Angiography Versus Angiography in Iliacofemoral Tract Diameter Assessment: The Imaging Modality Can Be Determinative In Choice of Approach for Transcatheter Aortic Valve Implantation

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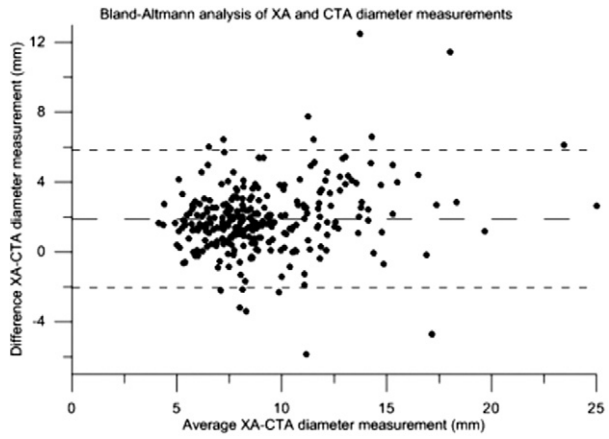
Background: The approach of transcatheter aortic valve implantation (TAVI) is primarily guided by the assessment of iliaco-femoral tract diameter. A minimal diameter of 6mm of the transfemoral tract is required for transfemoral TAVI. Currently, projection angiography (XA) and CT-angiography (CTA) are used interchangeably to evaluate suitability of the iliaco-femoral tract. Discrepancies between XA and CTA remain to be elucidated. We aim to reveal differences in iliaco-femoral tract diameters of TAVI candidates assessed by XA and CTA.
Methods: Diameters of 273 prospectively collected iliacofemoral segments of 39 TAVI candidates were analyzed on both XA and CTA by two observers. We determined the interobserver agreement for both imaging modalities and the difference between XA and CTA measurements.
Results: Diameters measured on CTA were on average smaller (mean 8.2±3.0 mm, mean difference 1.89 mm [95%CI: 1.65-2.13mm; $p<0.001$]). The interobserver agreement was excellent (Pearson coefficient: 0.92 for XA and 0.93 for CTA). For 21% (8 patients) CTA based diameters would have resulted in withholding a transfemoral procedure, whilst diameters measured on XA were larger than 6mm.
Conclusions: Diameters on CTA are significantly smaller than XA-based measurements, which should be acknowledged when determining the TAVI approach. The cut-off value of 6mm on XA may be lower for CTA.



TCT-881

Embolic Cerebral Insults and Microbleeds after Percutaneous Aortic Valve Replacement and Surgical Aortic Valve Replacement detected by Magnetic Resonance Imaging

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Background: We have previously shown that there is an increased rate of embolic cerebral insults after transcatheter aortic valve implantation (TAVI). Cerebral microbleeds have been identified as a marker for poor neurologic outcome. The aim of this study was to assess and compare the rate of new periprocedural embolic cerebral insults and microbleeds in patients after TAVI and surgical AVR by MRI and their respective clinical outcome.
Methods: 48 consecutive patients (18 male, 30 female, mean age 81±5 years, average log. Euroscore 32±10%) undergoing TAVI received a cranial MRI before and after the TAVI procedure to detect new cerebral lesions. 44 consecutive patients (26 male, 18 female, mean age 78±5 years, average log. Euroscore 13±10%) undergoing surgical AVR also received a baseline cerebral MRI scan preoperatively and MRI was repeated within 6 days after valve implantation. MRI studies included axial diffusion weighted, T2 weighted, FLAIR-weighted and T2 gradient echo sequences. Standardized clinical assessment of the neurologic status was performed prior to aortic valve replacement and before discharge.
Results: In 63% of the TAVI patients new cerebral embolic lesions could be detected in the postprocedural MRI. The maximal lesion size was < 5mm in 10 patients, < 10mm in 17 patients and > 10mm in 3 patients. Despite the high incidence of morphologically detectable lesions only a single patient developed relevant neurologic symptoms of a stroke. Within patients after surgical AVR only 44% of the patients displayed new cerebral embolic lesions. The maximal lesion size was < 5mm in 10 patients, < 10mm in 6 patients and > 10mm in 3 patients. No clinically relevant strokes were seen in this group. In contrast, cerebral microbleeds were only detected in 13% of the TAVI patients but in 64% of patients after surgical AVR.
Conclusions: New embolic cerebral insults and microbleeds detected by MRI were seen both patient groups (TAVI+surgical AVR). Patients after surgical AVR showed more microbleeds, whereas patients after TAVI showed more embolic ischemic insults. However, despite the high percentage of MRI detected lesions in both groups, relevant neurological symptoms were very rare and mostly transitory.

TCT-882

Has Balloon Aortic Valvuloplasty For Severe Aortic Stenosis Improved Outcomes In The Transcatheter Aortic Valve Replacement Era?

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Background: The introduction of transcatheter aortic valve replacement (TAVR) has led to a revival in balloon aortic valvuloplasty (BAV) as treatment for patients with severe aortic stenosis.
Methods: A cohort of 472 patients underwent 538 BAV procedures. The cohort was divided into two groups: Group I, 296 (55.0%) procedures before 2010 and Group II, 242 (45%) procedures after 2010. Successful BAV was defined as reduction >40% in the mean gradient and/or increase in aortic valve area >40%. Clinical, hemodynamic, and follow-up mortality data were collected.

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